

Abstract

Process for Preparing Nitrogen Trifluoride

The invention relates to a new process for preparing nitrogen trifluoride which
5 finds extensive application in the technology of semiconductors, high energy lasers, and
chemical vapor deposition.

Nitrogen trifluoride is prepared by the fluorination of urea or its decomposition
products with elemental fluorine in anhydrous hydrogen fluoride at a temperature of from
-20°C to 0°C and the molar ratio of fluorine to the starting compounds of not over 3. The
10 concentration of the starting compounds in anhydrous hydrogen fluoride is preferably
20—50% by weight.

The proposed process is explosion-safe and gives a product with maximum
content of nitrogen trifluoride and minimum concentration of admixtures, with the yield
of up to 90%.

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